

What is claimed is:

1. A method of deciding a transmit power level carried out by a wireless terminal in a mobile communications system comprising the steps of:

5 deciding a multiplex number of uplink control signals; and
 deciding a transmit power level according to the decided multiplex number of uplink control signals.

2. A method of deciding a transmit power level carried out by a wireless terminal in a mobile communications system comprising the
10 steps of:

 estimating a quality of an uplink control signal; and
 deciding a transmit power level according to the estimated quality of the uplink control signal.

3. A method of deciding a transmit power level carried out by a
15 base station in a mobile communications system comprising the steps of:

 deciding a multiplex number of uplink control signals;
 deciding a transmit power level according to the decided multiplex number of uplink control signals; and

 sending the decided transmit power level as an indication value to
20 a wireless terminal.

4. A method of deciding a transmit power level carried out by a base station in a mobile communications system comprising the steps of:

 detecting a quality of an uplink control signal;
 deciding a transmit power level according to the detected quality of
25 the uplink control signal; and

 transmitting to a wireless terminal the decided transmit power level as an indication value.

5. A method of deciding a transmit power level in a mobile communications system, in which the system includes a plurality of

wireless terminals and a base station, comprising the steps of:

(a) a step that the plurality of wireless terminals estimate a quality of an uplink control signal, respectively;

(b) a step that the plurality of wireless terminals inform a degradation of the uplink control signal to the base station when they estimated the degradation thereof, respectively;

(c) a step that the base station decides to increase the transmit power level of the uplink control signal from one of the plurality of wireless terminals when the base station received from one of the plurality of wireless terminals an information that the quality of the uplink control signal for informing an incorrect receipt of a downlink data signal is degraded, whereas the base station decides to decrease the transmit power level of the uplink control signal from one of the plurality of wireless terminals when the base station received from one of the plurality of wireless terminals an information that the quality of the uplink control signal for informing a correct receipt of the downlink data signal is degraded; and

(d) a step that the base station sends an indication value of the decided transmit power level of the uplink control signal to all of the plurality of wireless terminals.

6. A wireless terminal comprising:

a multiplex number deciding means for deciding a multiplex number of uplink control signals;

a transmit power level deciding means for deciding a transmit power level of the uplink control signals according to the multiplex number of uplink control signals decided by the multiplex number deciding means; and

a transmit power control means for controlling a transmit power level of the uplink control signals according to the decided transmit power

level by the transmit power level deciding means.

7. A wireless terminal in accordance with claim 6: wherein the transmit power level deciding means decides an increment in the transmit power level when the multiplex number of uplink control signals is large,
5 whereas the transmit power level deciding means decides a decrement in the transmit power level when the multiplex number of uplink control signals is small.

8. A wireless terminal in accordance with claim 6: wherein the multiplex number deciding means decides the multiplex number of uplink
10 control signals according to a multiplex number of downlink control signals corresponding thereto.

9. A wireless terminal in accordance with claim 8: wherein the multiplex number deciding means measures the multiplex number of downlink control signals corresponding to the uplink control signals and
15 decides the multiplex number of uplink control signals according to the measured multiplex number of downlink control signals.

10. A wireless terminal in accordance with claim 6: wherein the transmit power level of the uplink control signal is a transmit power level of an uplink control signal for informing an incorrect receipt of a downlink
20 data signal from a base station.

11. A wireless terminal comprising:

a signal quality estimation means for estimating a quality of an uplink control signal;

a transmit power level deciding means for deciding a transmit
25 power level according to the estimated quality of the uplink control signal;
and

a transmit power control means for controlling a transmit power level of the uplink control signal according to the decided transmit power level by the transmit power level deciding means.

12. A wireless terminal in accordance with claim 11: wherein
the signal quality estimation means estimates the quality of the
uplink control signal for informing an incorrect receipt of a downlink data
signal from a base station and the quality of the uplink control signal for
5 informing a correct receipt of the downlink data signal; and

the transmit power level deciding means decides an increment in
the transmit power level of the uplink control signal when the signal
quality estimation means estimates that the quality of the uplink control
signal for informing an incorrect receipt of the downlink data signal is
10 degraded, and decides a decrement in the transmit power level of the
uplink control signal when the signal quality estimation means estimates
that the quality of the uplink control signal for informing a correct receipt
of the uplink control signal is degraded.

13. A wireless terminal in accordance with claim 11: wherein the
15 signal quality estimation means estimates the quality of the uplink
control signal according to the downlink data signal from the base
station.

14. A wireless terminal in accordance with claim 13: wherein the
signal quality estimation means decides that the quality of the uplink
20 control signal for informing a correct receipt of the downlink data signal is
degraded in a case where the wireless terminal receives the downlink data
signal of informing the same message with that was previously received
after the wireless terminal sent an uplink control signal for informing a
correct receipt of the downlink data signal which was previously received.

25 15. A wireless terminal in accordance with claim 13: wherein the
signal quality estimation means decides that the quality of the plink
control signal for informing an incorrect receipt of the downlink data
signal is degraded in a case where the wireless terminal receives the
downlink data signal of informing a different message from that was

previously received after the wireless terminal sent an uplink control signal for informing an incorrect receipt of the downlink data signal which was previously received.

16. A wireless terminal in accordance with claim 11: wherein the
5 transmit power level of the uplink control signal is a transmit power level of an uplink control signal for informing an incorrect receipt of a downlink data signal from a base station.

17. A base station comprising:

a multiplex number of signals deciding means for deciding a
10 multiplex number of uplink control signals from a wireless terminal;

a transmit power level deciding means for deciding a transmit power level according to the decided multiplex number of uplink control signals; and

a transmit power level indicating means for sending the decided
15 transmit power level as an indication value to the wireless terminal.

18. A base station in accordance with claim 17: wherein the transmit power level deciding means decides an increment in the transmit power level of the uplink control signals when the decided multiplex number of uplink control signals is large, and decides a decrement in the
20 transmit power level of the uplink control signals when the decided multiplex number of uplink control signals is small.

19. A base station in accordance with claim 17: wherein the multiplex number of signals deciding means decides the multiplex number of uplink control signals according to a multiplex number of
25 downlink control signals.

20. A base station in accordance with claim 19: wherein the multiplex number of signals deciding means measures the multiplex number of downlink control signals and decides the multiplex number of uplink control signals according to the measured multiplex number of

downlink control signals.

21. A base station in accordance with claim 17: wherein the transmit power level of the uplink control signals is a transmit power level of uplink control signals for informing an incorrect receipt of downlink data signals.

22. A base station comprising:

a signal quality detecting means for detecting a quality of an uplink control signal from a wireless terminal;

a transmit power level deciding means for deciding a transmit power level according to the detected quality of the uplink control signal; and

a transmit power level indicating means for sending the decided transmit power level as an indication value to the wireless terminal.

23. A base station in accordance with claim 22: wherein

the signal quality deciding means decides that a quality of an uplink control signal from the wireless terminal for the purpose of informing an incorrect receipt of a downlink data signal is degraded, and decides that a quality of an uplink control signal from the wireless terminal for the purpose of informing a correct receipt of the downlink data signal is degraded; and

the transmit power level deciding means decides to increase the transmit power level of the uplink control signal from the wireless terminal when the base station received from the wireless terminal an information that the quality of the uplink control signal for informing the incorrect receipt of the downlink data signal is degraded, and decides to decrease the transmit power level of the uplink control signal from the wireless terminal when the base station received from the wireless terminal an information that the quality of the uplink control signal for informing the correct receipt of the downlink data signal is degraded.

24. A base station in accordance with claim 23: wherein the signal quality deciding means decides the quality of the uplink control signal according a bit error rate or a signal-to-noise ratio of at least one of a portion of informing the correct receipt of the downlink data signal and
5 a blank portion thereof.

25. A base station in accordance with claim 22: wherein the transmit power level of the uplink control signal is a transmit power level of an uplink control signal from the wireless station for the purpose of informing an incorrect receipt of the downlink data signal.

10 26. A mobile communications system comprising a plurality of wireless terminals and a base station: wherein

the plurality of wireless terminals respectively are configured to estimate a quality of uplink control signal and to inform degradation of the quality of the uplink control signals to the base station in a case
15 where one of the respective wireless terminals estimate the degradation of the quality of the uplink control signals; and

the base station is configured to decide to increase a transmit power level of the uplink control signals from each of the wireless terminals when the base station received from one of the wireless
20 terminals an information that the quality of the uplink control signals for informing an incorrect receipt of the downlink data signals is degraded and to decide to decrease the transmit power level of the uplink control signals from each of the wireless terminals when the base station received from one of the wireless terminals an information that the quality of the
25 uplink control signals for informing a correct receipt of the downlink data signals is degraded, and to send an indication value of the transmit power level to all of the plurality of wireless terminals.